

Abstract

Advanced Space Suit PLSS 2.0 Cooling Loop Evaluation and PLSS 2.5 Recommendations

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From 2012 to 2015 The NASA/JSC AdvSS (Advanced Space Suit) PLSS (Primary Life Support Subsystem) team, with support from UTC Aerospace Systems, performed the build-up, packaging and testing of PLSS 2.0. A key aspect of that testing was the evaluation of the long-term health of the water cooling circuit and the interfacing components. Intermittent and end-of-test water, residue and hardware analyses provided valuable information on the status of the water cooling circuit, and the approaches that would be necessary to enhance water cooling circuit health in the future. The evaluated data has been consolidated, interpreted and woven into an action plan for the maintenance of water cooling circuit health for the planned FY (fiscal year) 2016 through FY 2018 PLSS 2.5 testing. This paper provides an overview of the PLSS 2.0 water cooling circuit findings and the associated steps to be taken in that regard for the PLSS 2.5 testing.
